UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,055	02/16/2001	Sara Mazur	34647-00411USPT	4156

27045	7590	08/04/2004

ERICSSON INC.
6300 LEGACY DRIVE
M/S EVR C11
PLANO, TX 75024

EXAMINER
KADING, JOSHUA A

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)	
Office Action Summary	09/788,055	MAZUR ET AL.	
	Examiner	**Art Unit**	
	Joshua Kading	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-41* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-41* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *16 February 2001* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *4.*

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

5   (a) A patent may not be obtained though the invention is not identically disclosed or described as set
           forth in section 102 of this title, if the differences between the subject matter sought to be patented and
           the prior art are such that the subject matter as a whole would have been obvious at the time the
           invention was made to a person having ordinary skill in the art to which said subject matter pertains.
           Patentability shall not be negatived by the manner in which the invention was made.

10

Claims 1-15, 17-25, 27-33 and 35-41 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Spear (U.S. Patent 5,517,492) in view of Kay et al. (U.S.

Patent 5,299,198).

15   Regarding claim 1, Spear discloses "a method for continuous allocation of real-

time traffic in a communication network, comprising the steps of:

allocating a first unit of real-time data for transmission during a first interval with a

first transmission rate (figure 2A, element A1 is a first unit of real-time speech data

belonging to a user A and the entire 8 slots of user A are the first interval, further the

20   first interval is at a full rate as described in col. 2, lines 64-66);

allocating... data for transmission during a second interval (figure 2A, the

downlink shows more data units allocated in a second interval);

allocating a second unit of real-time data for transmission during an... interval

with a second transmission rate (figure 2C, element A3 of the downlink is a real-time

25   speech data unit allocated in an interval and has a second transmission rate as

described in col. 3, lines 10-16); and

allocating a third unit of real-time data for transmission during said third interval with said second transmission rate (figure 2C, element B1 is a third unit of real-time speech data allocated in the same interval as A3 with the same second transmission rate as A3)."

5   However, Spear lacks what Kay discloses, the data allocated in the second interval is "non real-time data (figure 4 where the control field in any of the frames can be considered non real-time data and the remaining frames are real-time voice data as described in col. 9, lines 40-51)"; and the second and third units of real-time data are allocated in a third interval (figure 4 where there are 12 intervals and thus there can be

10   a third interval used to allocate second and third data units).

It would have been obvious to one with ordinary skill in the art at the time of invention to include the non real-time data in the second interval for the purpose of transmitting the non real-time data intermittently with the real-time using multiple diversity (Kay, Abstract). The motivation for transmitting the non real-time data with the

15   real-time data using multiple diversity is so that the control in formation (which is necessary) can be transmitted in the same channel as voice without compromising the voice transmission capacity.

Regarding claim 10, Spear discloses "a method for continuous allocation of real-

20   time traffic in a communication network, comprising the steps of:

allocating a first unit of real-time data for transmission during a first interval with a first transmission rate (figure 2A, element A1 is a first unit of real-time speech data

belonging to a user A and the entire 8 slots of user A are the first interval, further the

first interval is at a full rate as described in col. 2, lines 64-66);

allocating... data for transmission during a second interval (figure 2A, element A4

shows another data unit allocated in a second interval);

5   allocating a second unit of real-time data for transmission during said second

interval with a second transmission rate (figure 2C, element A3 of the downlink is a real-

time speech data unit allocated in said second interval and has a second transmission

rate as described in col. 3, lines 10-16); and

allocating a third unit of real-time data for transmission during said second

10   interval with said second transmission rate (figure 2C, element B1 is a third unit of real-

time speech data allocated in the second interval with the same second transmission

rate as A3)."

However, Spear lacks what Kay discloses, the first data allocated in the second

interval is "non real-time data (figure 4 where the control field in any of the frames can

15   be considered non real-time data and the remaining frames are real-time voice data as

described in col. 9, lines 40-51)."

It would have been obvious to one with ordinary skill in the art at the time of

invention to include the non real-time data in the second interval for the purpose of

transmitting the non real-time data intermittently with the real-time using multiple

20   diversity (Kay, Abstract). The motivation for transmitting the non real-time data with the

real-time data using multiple diversity is so that the control in formation (which is

necessary) can be transmitted in the same channel as voice without compromising the

voice transmission capacity.

Regarding claim 11, Spear and Kay disclose the method of claim 10. However,

5   Spear lacks what Kay further discloses, "allocating said non-real-time data for a first

timeslot (figure 4, where in interval 1, the non real-time control data is allocated in slot

1), and the steps of allocating said second unit of real-time data and said third unit of

real time data further comprises allocating said second unit of real-time data and said

third unit of real-time data for a second timeslot (figure 4 shows the real-time data in slot

10   2 of interval 1 but does not explicitly state there are two units of real-time data in the

slot, figure 15 however, shows that each slot can have more than one unit of real-time

data included in it and thus slot 2 of interval 1 of figure 4 is taken to have two data

units)." It would have been obvious to one with ordinary skill in the art at the time of

invention to include the non real-time data in a first slot and the second and third real-

15   time data units in a second time slot with the method of claim 10 for the same reasons

and motivation as in claim 10.

Regarding claim 12, Spear and Kay disclose the method of claim 10. However,

Spear lacks what Kay further discloses, "said first and second units of real-time data are

20   allocated to a first user, and said third unit of real-time data is allocated to a second user

(figure 15 shows in slot 1 that the first and second portions of the slot are allocated to

user 1 and the third portion is allocated to user 2)." It would have been obvious to one

with ordinary skill in the art at the time of invention to include the first and second units

of real-time data in a first slot and the third real-time data unit in a second time slot with

the method of claim 10 for the same reasons and motivation as in claim 10.

5   Regarding claim 22, Spear discloses "a method for continuous allocation of real-

time traffic in a communication network, comprising the steps of:

           allocating a first unit of real-time data for transmission during a first interval with a

predetermined transmission rate (figure 2A, element A1 is in the first interval of user A

and has a predetermined transmission rate as read in col. 2, lines 64-66);

10   allocating a second unit of real-time data for transmission during said first interval

(figure 2A, element A2 is in the first interval of user A)..."

           However, Spear lacks what Kay discloses, "allocating non real-time data for

transmission during a second interval (figure 4, interval 3 acts as a second interval and

the control data is non real-time data, interval 1 is taken to be similar to user A of

15   Spear); determining if said second interval is not contiguous with said first interval

(figure 4, as seen by the figure interval 1 is clearly not contiguous with interval 3 (herein

acting as applicant's second interval)); and if said second interval is not contiguous with

said first interval, allocating a third unit of real-time data and a fourth unit of real-time

data for transmission during a third interval with said predetermined transmission rate

20   (figure 4, interval 4 of Kay now acts as a third interval with third and fourth real-time

units of data), and allocating a fifth unit of real-time data and a sixth unit of real-time

data for transmission during a fourth interval with said predetermined transmission rate

(figure 4, interval 5 of Kay now acts as a fourth interval with fifth and sixth real-time data units), said third interval contiguous with said second interval, and said fourth interval contiguous with said third interval (figure 4, intervals 3 and 4 are contiguous and 4 and 5 are contiguous)."

5   It would have been obvious to one with ordinary skill in the art at the time of invention to include the non real-time data in the second interval for the purpose of transmitting the non real-time data intermittently with the real-time using multiple diversity (Kay, Abstract). The motivation for transmitting the non real-time data with the real-time data using multiple diversity is so that the control in formation (which is

10   necessary) can be transmitted in the same channel as voice without compromising the voice transmission capacity.

          Regarding claim 30, Spear discloses "a system for continuous allocation of real-time traffic, comprising:

15   a network control unit (figure 1, the interleave/deinterleave unit acts as a network control unit as described in col. 3, lines 63-64); and

          a terminal unit coupled to said network control unit by a transmission medium (figure 1 where the transmitter/receiver unit acts as a terminal unit by being the point of communication with the mobile stations), said network control unit further comprising:

20   means for allocating a first unit of real-time data for transmission during a first interval with a first transmission rate (figure 1, the interleavers perform the allocating shown in figure 2A, element A1 is a first unit of real-time speech data belonging to a

user A and the entire 8 slots of user A are the first interval, further the first interval is at a

full rate as described in col. 2, lines 64-66);

means for allocating... data for transmission during a second interval (figure 1,

where again the interleavers perform the allocating as shown in figure 2A, the downlink

5   shows more data units allocated in a second interval);

means for allocating a second unit of real-time data for transmission during

an... interval with a second transmission rate (figure 1, where the interleavers perform

the allocating as shown in figure 2C, element A3 of the downlink is a real-time speech

data unit allocated in an interval and has a second transmission rate as described in col.

10   3, lines 10-16); and

means for allocating a third unit of real-time data for transmission during

said... interval (same as the interval for the second unit of data) with said second

transmission rate (figure 1, where the interleavers perform the allocating as shown in

figure 2C, element B1 is a third unit of real-time speech data allocated in the same

15   interval as A3 with the same second transmission rate as A3)."

However, Spear lacks what Kay discloses, the data allocated in the second

interval is "non real-time data (figure 4 where the control field in any of the frames can

be considered non real-time data and the remaining frames are real-time voice data as

described in col. 9, lines 40-51)"; and the second and third units of real-time data are

20   allocated in a third interval (figure 4, where there are 12 intervals and thus there can be

a third interval used to allocate second and third data units).

It would have been obvious to one with ordinary skill in the art at the time of

invention to include the non real-time data in the second interval for the purpose of

transmitting the non real-time data intermittently with the real-time using multiple

diversity (Kay, Abstract). The motivation for transmitting the non real-time data with the

5   real-time data using multiple diversity is so that the control in formation (which is

necessary) can be transmitted in the same channel as voice without compromising the

voice transmission capacity.

Regarding claims 2, 13, 23, and 31, Spear and Kay disclose the methods of

10   claims 1, 10, and 22, and the system of claim 30. However, Kay lacks what Spear

further discloses, "said real-time data includes speech data (col. 3, lines 63-64)." It

would have been obvious to one with ordinary skill in the art at the time of invention to

have the real-time data include speech data for the same reasons and motivation as in

claims 1, 10, 22, and 30.

15

Regarding claims 3, 14, 24, and 32, Spear and Kay disclose the methods of

claims 1, 10, and 22, and the system of claim 30. However, Kay lacks what Spear

further discloses, "each said first unit, second unit and third unit of real-time data

comprises a respective 20 ms signal output from a speech codec (col. 2, lines 64-65;

20   col. 3, lines 27-28)." It would have been obvious to one with ordinary skill in the art at

the time of invention to have the data comprise 20 ms output for the same reasons and

motivation as in claims 1, 10, 22, and 30.

Regarding claims 4, 15, 25, and 33, Spear and Kay disclose the methods of

claims 1, 10, and 22, and the system of claim 30. However, Kay lacks what Spear

further discloses, "said communication network comprises a TDMA communication

5   network (col. 1, lines 19-20)." It would have been obvious to one with ordinary skill in the

art at the time of invention to have the network comprise a TDMA communication

network for the same reasons and motivation as in claims 1, 10, 22, and 30.

Regarding claims 5, 17, 27, and 35, Spear and Kay disclose the methods of

10   claims 1, 10, and 22, and the system of claim 30. However, Kay lacks what Spear

further discloses, "said intervals comprises a block in a timeslot (col. 3, lines 10-16

although this section refers to figure 2B, figures 2A and 2C share the same

characteristics as figure 2B and thus share the same timeslots and blocks)." It would

have been obvious to one with ordinary skill in the art at the time of invention to include

15   the timeslots with the intervals for the same reasons and motivation as in claims 1, 10,

22, and 30.

Regarding claims 6, 18, and 36, Spear and Kay disclose the methods of claims 1

and 22, and the system of claim 30. However, Kay lacks what Spear further discloses,

20   "said first transmission rate comprises a transmission at a full-rate (col. 2, lines 64-66)."

It would have been obvious to one with ordinary skill in the art at the time of invention to

include the full-rate transmission rate for the same reasons and motivation as in claims
1, 22, and 30.

Regarding claims 7, 19, and 37, Spear and Kay disclose the methods of claims 1

5   and 22, and the system of claim 30. However, Kay lacks what Spear further discloses,

"said first transmission rate is a higher rate than said second transmission rate (figures

2B and 2C as compared to figure 2A, although the rate for user A has been increased in

figures 2B and 2C from figure 2A, the overall rate of figures 2B and 2C has increased

from 2A because of the ability to include user B in the same interval of communication

10   as user A, thus increasing the overall transmission rate)." It would have been obvious to

one with ordinary skill in the art at the time of invention to include the higher

transmission rate for the same reasons and motivation as in claims 1, 22, and 30.

Regarding claims 8, 20, and 38, Spear and Kay disclose the methods of claims 1

15   and 22, and the system of claim 30. However, Kay lacks what Spear further discloses,

"said second transmission rate comprises a transmission at a half-rate (col. 3, lines 10-

16 and 25-30)." It would have been obvious to one with ordinary skill in the art at the

time of invention to include the half-rate transmission rate for the same reasons and

motivation as in claims 1, 22, and 30.

20

Regarding claims 9, 21, 29, and 39, Spear and Kay disclose the methods of

claims 1, 10, and 22, and the system of claim 30. However, Spear lacks what Kay

further discloses, "said non-real-time data comprises control data (figure 4 where it is

clearly stated in certain intervals that there is control data)." It would have been obvious

to one with ordinary skill in the art at the time of invention to have the non real-time data

consist of control data for the same reasons and motivation as in claims 1, 10, 22, and

5   30.

Regarding claim 40, Spear discloses "a system for continuous allocation of real-

time traffic, comprising:

a network control unit (figure 1, the interleave/deinterleave unit acts as a network

10   control unit as described in col. 3, lines 63-64); and

a terminal unit coupled to said network control unit by a transmission medium

(figure 1 where the transmitter/receiver unit acts as a terminal unit by being the point of

communication with the mobile stations), said network control unit further comprising:

means for allocating a first unit of real-time data for transmission during a first

15   interval with a first transmission rate (figure 1, the interleavers perform the allocating

shown in figure 2A, element A1 is a first unit of real-time speech data belonging to a

user A and the entire 8 slots of user A are the first interval, further the first interval is at a

full rate as described in col. 2, lines 64-66);

means for allocating... data for transmission during a second interval (figure 1,

20   where again the interleavers perform the allocating as shown in figure 2A, the downlink

shows more data units allocated in a second interval);

means for allocating a second unit of real-time data for transmission during said

second interval with a second transmission rate (figure 2C, element A3 of the downlink

is a real-time speech data unit allocated in said second interval and has a second

transmission rate as described in col. 3, lines 10-16); and

5   means for allocating a third unit of real-time data for transmission during said

second interval (figure 2C, element B1 is a third unit of real-time speech data allocated

in the second interval with the same second transmission rate as A3)."

However, Spear lacks what Kay discloses, the first data allocated in the second

interval is "non real-time data (figure 4 where the control field in any of the frames can

10   be considered non real-time data and the remaining frames are real-time voice data as

described in col. 9, lines 40-51)."

It would have been obvious to one with ordinary skill in the art at the time of

invention to include the non real-time data in the second interval for the purpose of

transmitting the non real-time data intermittently with the real-time using multiple

15   diversity (Kay, Abstract). The motivation for transmitting the non real-time data with the

real-time data using multiple diversity is so that the control in formation (which is

necessary) can be transmitted in the same channel as voice without compromising the

voice transmission capacity.

20   Regarding claim 41, Spears discloses "a system for continuous allocation of real-

time traffic, comprising:

a network control unit (figure 1, the interleave/deinterleave unit acts as a network

control unit as described in col. 3, lines 63-64); and

a terminal unit coupled to said network control unit by a transmission medium

(figure 1 where the transmitter/receiver unit acts as a terminal unit by being the point of

5   communication with the mobile stations), said network control unit further comprising:

means for allocating a first unit of real-time data for transmission during a first

interval with a predetermined transmission rate (figure 1, where again the interleavers

perform the allocating as shown in figure 2A, element A1 is in the first interval of user A

and has a predetermined transmission rate as read in col. 2, lines 64-66);

10   means for allocating a second unit of real-time data for transmission during said

first interval (figure 1, where again the interleavers perform the allocating as shown in

figure 2A, element A2 is in the first interval of user A)..."

However, Spear lacks what Kay discloses, "means (Spear, figure 1, interleavers)

for allocating non real-time data for transmission during a second interval (figure 4,

15   interval 3 acts as a second interval and the control data is non real-time data, interval 1

is taken to be similar to user A of Spear); determining if said second interval is not

contiguous with said first interval (figure 4, as seen by the figure interval 1 is clearly not

contiguous with interval 3 (herein acting as applicant's second interval)); and if said

second interval is not contiguous with said first interval, allocating a third unit of real-

20   time data and a fourth unit of real-time data for transmission during a third interval with

said predetermined transmission rate (figure 4, interval 4 of Kay now acts as a third

interval with third and fourth real-time units of data), and allocating a fifth unit of real-

time data and a sixth unit of real-time data for transmission during a fourth interval with

said predetermined transmission rate (figure 4, interval 5 of Kay now acts as a fourth

interval with fifth and sixth real-time data units), said third interval contiguous with said

second interval, and said fourth interval contiguous with said third interval (figure 4,

5   intervals 3 and 4 are contiguous and 4 and 5 are contiguous)."

It would have been obvious to one with ordinary skill in the art at the time of

invention to include the non real-time data in the second interval for the purpose of

transmitting the non real-time data intermittently with the real-time using multiple

diversity (Kay, Abstract). The motivation for transmitting the non real-time data with the

10   real-time data using multiple diversity is so that the control in formation (which is

necessary) can be transmitted in the same channel as voice without compromising the

voice transmission capacity.

Claims 16, 26, and 34 are rejected under 35 U.S.C. 103(a) as being

15   unpatentable over Spear and Kay et al. as applied to claims 1, 10, 22, and 30 above,

and further in view of Rasanen (U.S. Patent 6,647,006 B1).

Regarding claims 16, 26, and 34, Spear and Kay disclose the methods of claims

10 and 22, and the system of claim 30. However, Spear and Kay lack what Rasanen

discloses, "said communication network comprises a Compact EDGE network (col. 2,

20   lines 4-9 and figure 6 showing the EDGE frames thus suggesting there is an EDGE

network)." It would have been obvious to one with ordinary skill in the art at the time of

invention to include the EDGE network with the methods of claims 10 and 22, and the
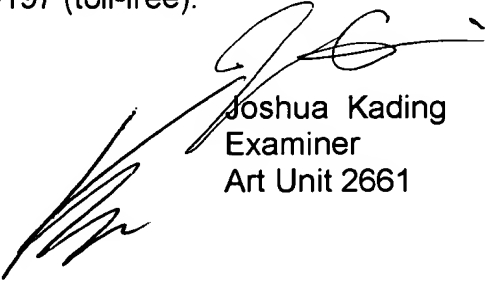
system of claim 30 for the purpose of providing a higher data rate per time slot than

other GSM systems. The motivation for providing a higher data rate can be the ability to

add more users, transmit more data per user, and transmit the data faster.

5   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joshua Kading whose telephone number is (703) 305-

0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number

10   for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

15   For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

                                                        Joshua Kading
                                                        Examiner
                                                        Art Unit 2661

20   July 23, 2004

                        KENNETH VANDERPUYE
                        PRIMARY EXAMINER